52. (New) The invention as set forth in claim 2 above, further comprising means for accepting erasures in the mathematical expressions traced by the stylus on the electronic input surface.

REMARKS

In response to the Office Action of February 2, 1994, claims 4 and 7 have been cancelled, claims 1, 2, 3, 5, 6, 8, 9, 11, 12, 23, 24, and 25 have been amended, and new claims 26-52 have been added. Claims 1-3, 5-6, and 8-52 are in the case. Re-examination and reconsideration of the application, as amended, is requested.

In the Office Action, claims 1-25 were rejected under 35 U.S.C. § 103 as being obvious over Inagaki in view of Tan.

The Applicant respectfully traverses these rejections in light of the amended and new claims 1-3, 5-6, and 8-52. The Applicant submits that his invention includes novel features not shown by the cited references.

The Applicant's invention comprises a calculator that recognizes handwritten input. The user writes a calculation on an electronic input surface as if it were a piece of scratch paper. The calculator records the movements of the stylus on the surface, recognizing the recorded movements of the stylus as characters, converting the characters into mathematical expressions comprised of operands and operators, displays the mathematical expression so that all of the operands and operators

are simultaneously displayed, performs calculations indicated by the mathematical expressions, and then displays the result of the performed calculations.

Inagaki discloses a calculator using a key array for recognizing handwriting input. A user runs his finger over the key array in the form of a symbol, and the calculator recognizes the symbol and enters it as if the corresponding button was pressed.

Tan discloses a keyless electronic calculating pen comprising a portable combination of the pen and an electronic calculator. The pen dispenses ink as that the user writes the calculation on paper. The calculator recognizes the symbols written by the user based on the movements of the pen and then the calculator enters them into a memory for calculation.

In contrast to the Inagaki and Tan references, the Applicant's invention of independent claims 1, 2 and 3 displays the entire mathematical expression on the calculator as it is entered by the user. Inagaki and Tan only display a single number or symbol. Thus, the Applicant's invention provides an electronic "scratch pad" capability that is not taught or suggested by the references.

The scratch pad metaphor of the Applicant's invention results in a number of advantages and additional features. For example, dependent claims 7 and 30 allow operands to be symbols rather than just numbers. Dependent claims 11 and 33 include the novel feature of recognizing mathematical expressions traced

horizontally and vertically on the electronic input surface. Dependent claims 12, 14, 34, and 36 include the novel feature of computing a result for the calculations when the user traces a result operator comprising a horizontal result line on the electronic input surface. Dependent claims 15 and 37 include the novel feature of animating mathematical expressions on the electronic input surface as they are being calculated. Dependent claims 16 and 38 include the novel feature of accepting corrections in the mathematical expressions traced by the stylus in the electronic input surface. Dependent claims 17-25 and 39-47 include the novel feature of logically linking together a plurality of mathematical expressions inscribed on the electronic input surface. Dependent claims 25 and 48 include the novel feature of accepting labels traced by the stylus on the electronic input surface for naming mathematical expressions, operands and operators. Dependent claims 27-29 and 49-51 include the novel feature of accepting insertions, deletions, and erasures in the mathematical expressions traced by the stylus on the electronic input surface.

None of the references cited in the Office Action teach or suggest the above features of the Applicant's claims. Moreover, the Applicant submits that the above-recited novel features provide new and unexpected results not recognized by the cited references. Thus, the Applicant submits that claims are non-obvious over the references.

In view of the above, it is respectfully submitted that the claims as amended are in immediate condition for allowance. Reconsideration of this application and its early allowance are requested.

Respectfully submitted,

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